

Meera Dhawan's Internship Overview at the Materials Science Branch at NASA Kennedy Space Center

Overview of internship duties and failure analysis conducted on simulated lunar regolith pavers and cryogenic flex hose wires

Meera Dhawan

Rutgers University: May 2017

Division: NE-L4

Mentor: Clara Wright

Supervisor: Steven M. McDanels

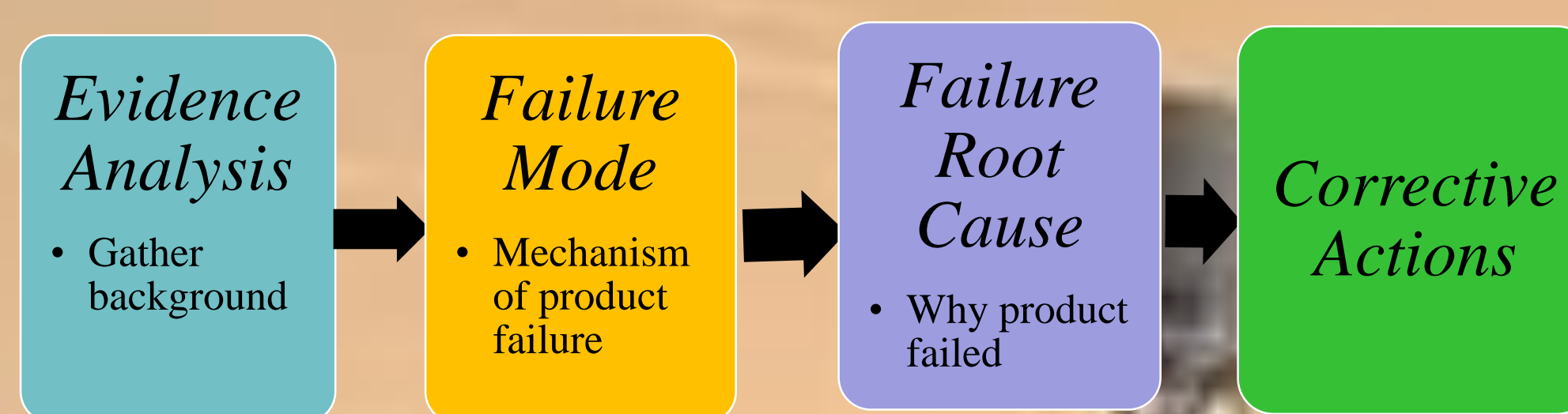
What did I do at NASA KSC?

Worked at NE-L4 Materials Science Branch on various tasks:

Failure Analysis Investigations

- Corroded Stainless Steel Hook – Case study to learn process
- Failed Pavers made from simulated lunar regolith – R&TD
- Cryogenic Flex Hose Wire Braiding- GSDO
- Ammonia Check Valve- ISS
- **Magnesium Alloy Research Project**
- **Advanced Plant Habitat**
- **Mechanical and Chemical Testing**

What is Failure Analysis?



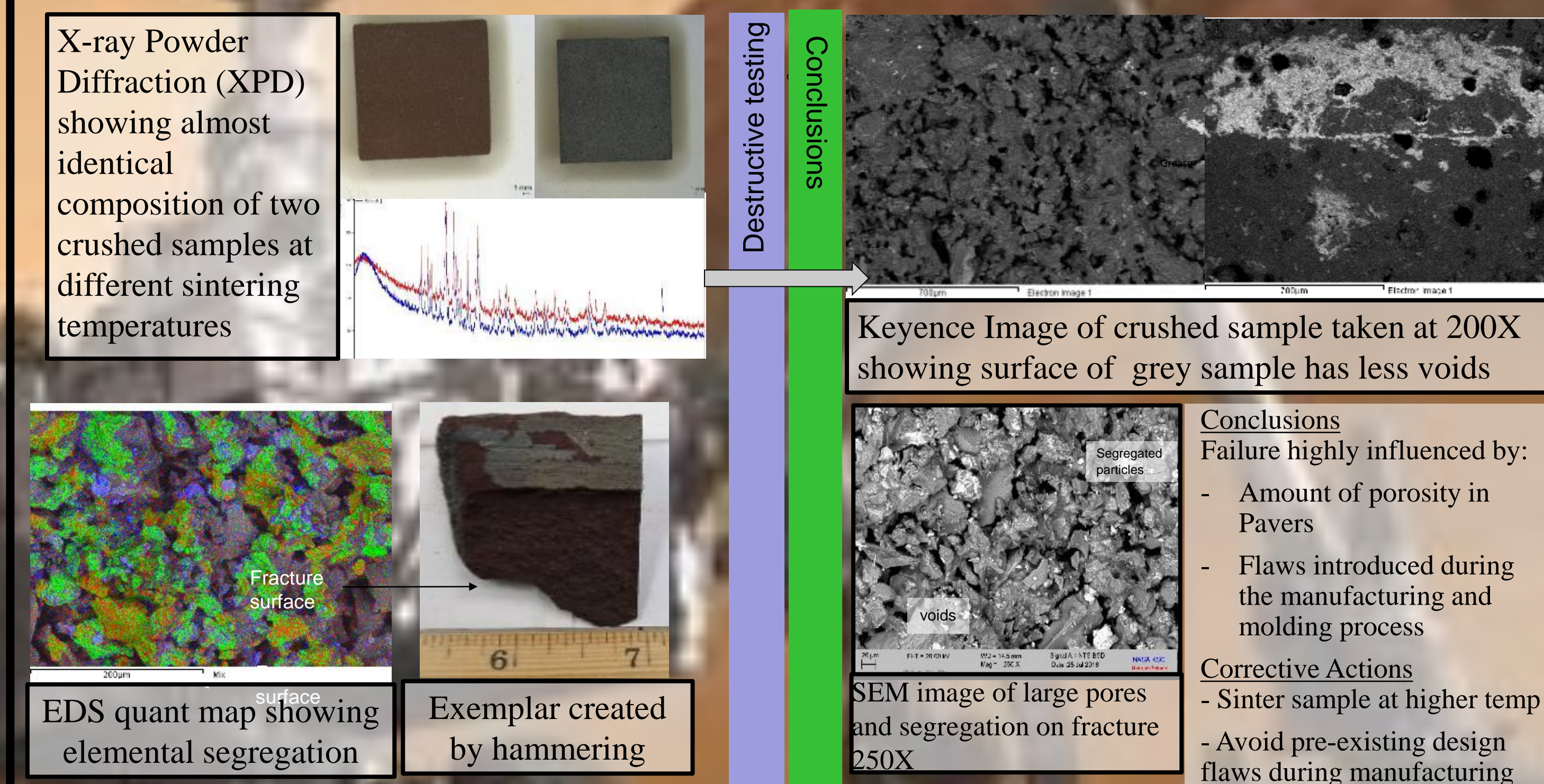
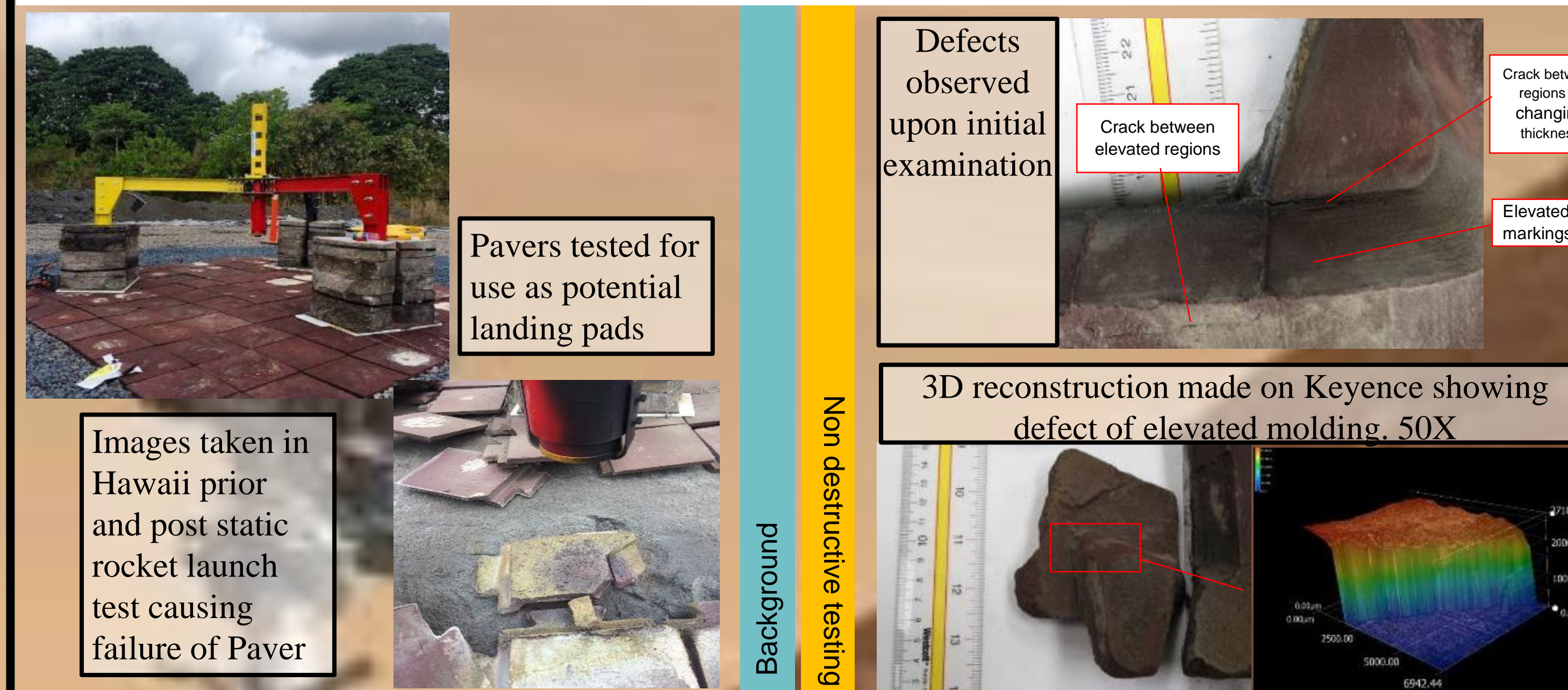
Other Activities on Center



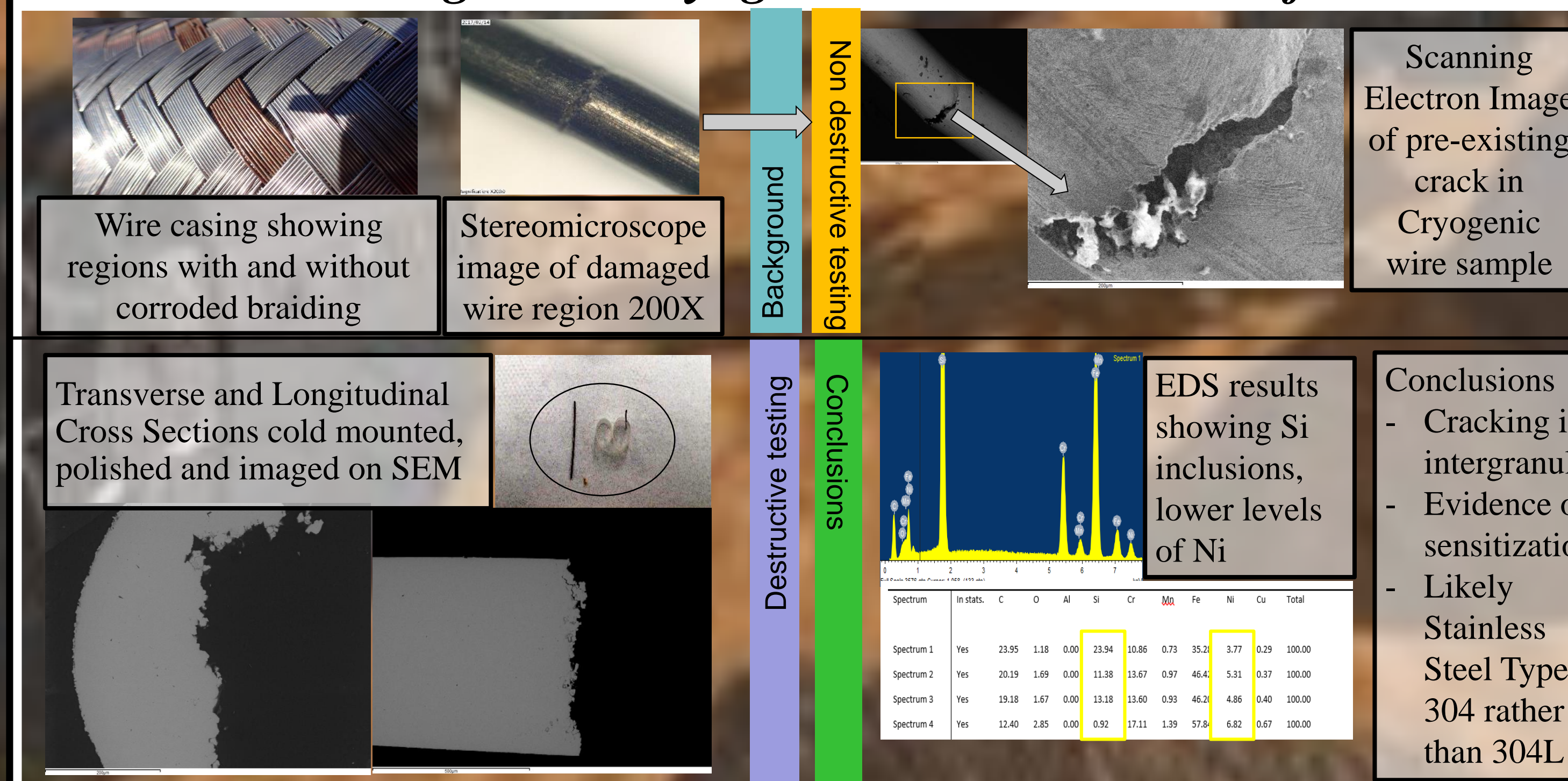
- Volunteering
- Outreach events
- Had an amazing mentor who won mentor of the year!
- Tours on Center
- Rocket Launches



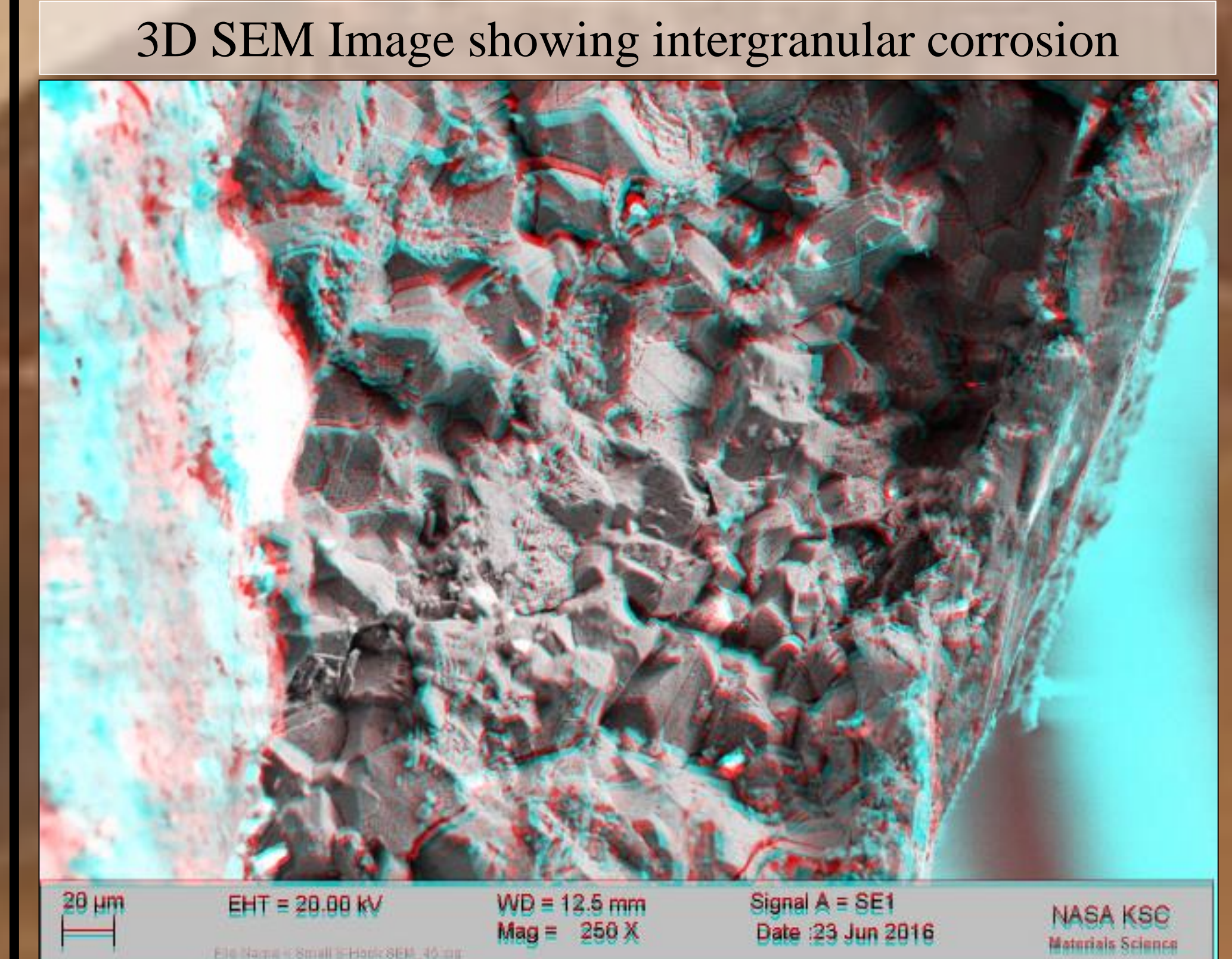
Failure Investigation: Simulated Lunar Regolith Pavers



Failure Investigation: Cryogenic Flex Hose Wires from LETF



Other Lab Work

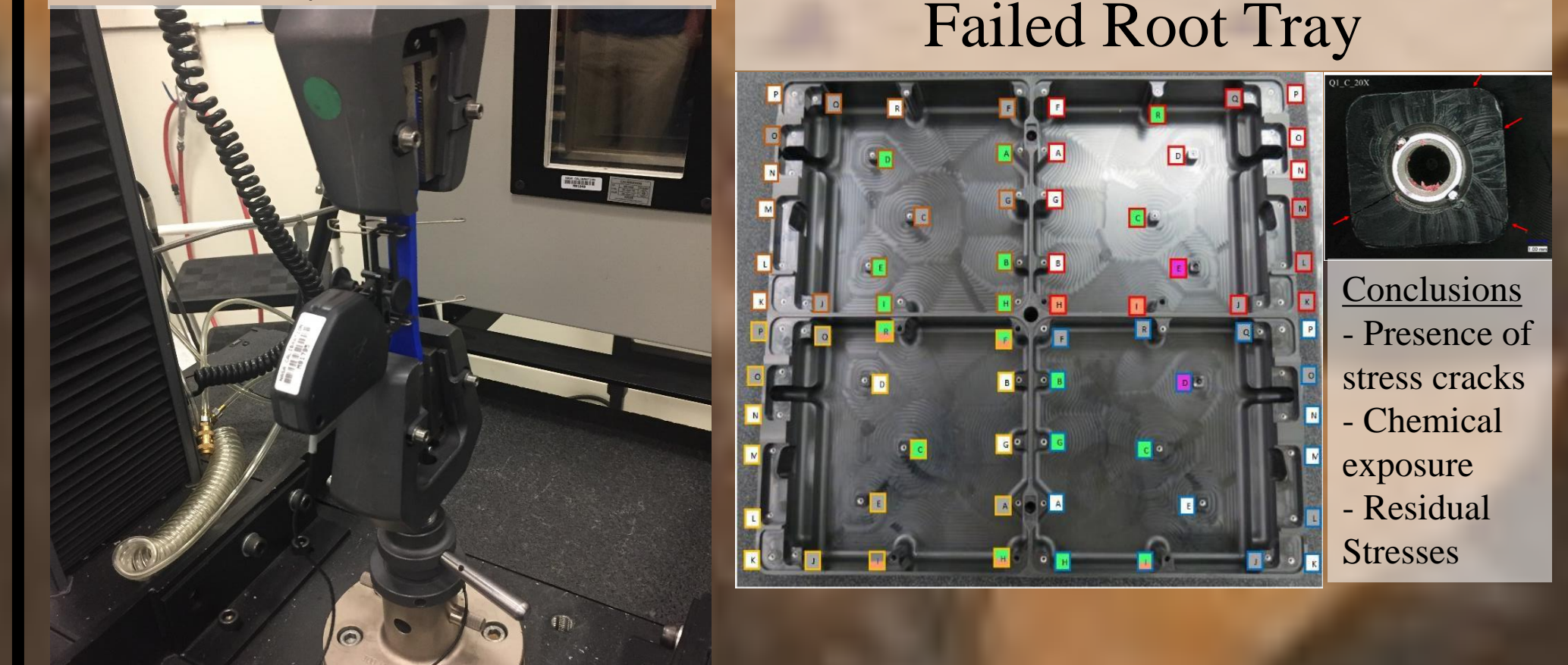


CT Scan on Check Valve



Pull test done for 3D printed samples made by Robert Whited

Advanced Plant Habitat: Failed Root Tray



Acknowledgements

For guidance and mentorship throughout my internship I would like to thank the following:

- 1) My mentor M. Clara Wright
- 2) My supervisor Steven J. McDanels
- 3) Co-workers from Materials Science Division
- 4) POC for various failure analysis investigations
- 5) Internship coordinators